### (19) World Intellectual Property **Organization**

International Bureau



## 

(43) International Publication Date 24 July 2003 (24.07.2003)

**PCT** 

### (10) International Publication Number WO 2003/060626 A3

(51) International Patent Classification7:

H04N 5/225

(21) International Application Number:

PCT/IL2003/000045

(22) International Filing Date: 16 January 2003 (16.01.2003)

(25) Filing Language:

(26) Publication Language:

**English** 

(30) Priority Data: 10/052,427

18 January 2002 (18.01.2002) US

- (71) Applicant (for all designated States except US): IM-AGEID LTD. [IL/IL]; Amal Street 11, 48092 Rosh Ha'ayin (IL).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): SHNIBERG, Moti [IL/IL]; P.O. Box 603, 44814 Elkannah (IL). NEMET, Yaron [IL/IL]; P.O. Box 183, 44856 Kedumim (IL). SALI, Erez [IL/IL]; Hadagan Street 11, Savion 56505 (IL).
- (74) Agents: SANFORD T. COLB & CO. et al.; P.O. Box 2273, 76122 Rehovot (IL).

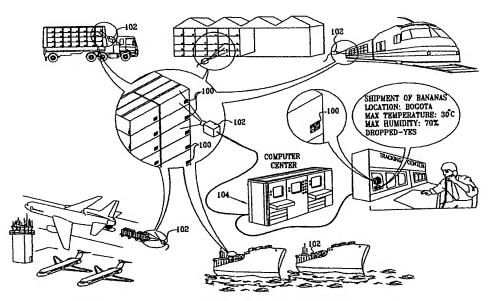
- (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

#### Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of
- (88) Date of publication of the international search report: 31 December 2003

[Continued on next page]

(54) Title: SYSTEM AND METHODOLOGY FOR TRACKING OBJECTS USING VISUALLY SENSIBLE INDICATORS



(57) Abstract: A system for tracking objects (10, 30, 502) including visually sensible indicators (12, 32, 74, 100, 238, 300, 400, 504, 600) on objects being tracked, at least one imager (14, 34, 102, 200, 210, 220, 222, 230, 234, 500) capturing images of the objects being tracked which images also show the visually sensible indicators and at least one image processor (16, 36, 104, 202, 212, 224, 236, 506) receiving outputs of the at least one imager and extracting from the outputs coded information indicated by the visually sensible indicators, the coded information being viewable on a display (18, 38), either locally or at a remote location (20, 40, 204, 214, 226, 240).



For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

# **Best Available Copy**



### INTERNATIONAL SEARCH REPORT

International application No.

PCT/IL03/00045

A. CLASSIFICATION OF SUBJECT MATTER IPC(7) : H04N 5/225			
US CL : 348/169; 235/385,469,494; 340/5.92			
According to International Patent Classification (IPC) or to both national classification and IPC			
B. FIELDS SEARCHED			
Minimum documentation searched (classification system followed by classification symbols)  U.S.: Please See Continuation Sheet			
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched			
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) EAST (imager,camera,barcode,tag,label,identifier,inventory,tracking)			
C. DOCUMENTS CONSIDERED TO BE RELEVANT			
Category *	Citation of document, with indication, where appropriate, of the relevant passages		Relevant to claim No.
х - Y	US 5,698,833 A (SKINGER) 16 December 1997, Figs. 1-3B; Abstract; col. 8, line 12 to col. 10, line 17.		1,3-5,14,16,20,21,23- 25,33,34,36,40,41,44, 47-51,57,59
			2,12,22,32,58
Y US 6,142,375 A (BELKA et al) 07 November 2000, F		Figs. 1-2; Abstract; col. 3, lines 57-68	12,32
Y US 6,286,763 B1 (REYNOLDS et al) 11 September 28-46; col. 7, line 41 to col. 8, line 8; col. 8, line 61		2001, Figs. 1-3 and 6-7; col. 5, lines to col. 9, line 17.	2,22,58
A,P US 6,342,830 B1 (WANT et al) 29 January 2002, Fi			67-86
Further documents are listed in the continuation of Box C.		See patent family annex.	
Special categories of cited documents:		"T" later document published after the inte date and not in conflict with the applic	
"A" document defining the general state of the art which is not considered to be of particular relevance		principle or theory underlying the inve	ention
"E" earlier application or patent published on or after the international filing date		"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone	
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)		"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination	
	t referring to an oral disclosure, use, exhibition or other means	being obvious to a person skilled in th	
"P" document published prior to the international filing date but later than the "&" priority date claimed			
Date of the actual completion of the international search		Date of mailing of the international seam	ch report
18 May 2003 (18.05.2003)  Name and mailing address of the ISA/US		Authorized officer	
Mail Stop PCT, Atm: ISA/US		Authorized officer  Thomas J. Mullen, Jr.  Telephone No. 703-305-3900	
Commissioner for Patents P.O. Box 1450		A HOHLAS J. IVIUHEH, JI.	
Ale	xandria, Virginia 22313-1450 o. (703)305-3230	Telephone No. 703-305-3900	

Form PCT/ISA/210 (second sheet) (July 1998)





International application No.

PCT/IL03/00045

Box I Observations where certain claims were found unsearchable (Continuation of Item I of Inst sheet)			
This international report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:			
1. Claim Nos.: because they relate to subject matter not required to be searched by this Authority, namely:			
Claim Nos.:      because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:			
3. Claim Nos.: 52-56,60-66,72-76,80-86 because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).			
Box II Observations where unity of invention is lacking (Continuation of Item 2 of first sheet)			
This International Searching Authority found multiple inventions in this international application, as follows:			
1. As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.			
2. As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.			
As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:			
4. No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:			
Remark on Protest			
No protest accompanied the payment of additional search fees.			
ł			

Form PCT/ISA/210 (continuation of first sheet(1)) (July 1998)



### INTERNATIONAL SEARCH REPORT

PCT/IL03/00045

### Continuation of B. FIELDS SEARCHED Item 1:

348/169,195,161,96,86,91,94; 235/385,469,494,487,454,462.01,462.03,462.04,462.11,462.41; 340/5.92,572.1,572.4,521,522,691.6,573.1; 705/22,28; 250/555,559.07,559.08; 382/181,224,100,141

Form PCT/ISA/210 (second sheet) (July 1998)